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Abstract:

By constructing a novel measure on the frequency of changes in social protection policies, we provide preliminary, yet new evidence on the determinants of social security reforms in Middle East and North Africa (MENA) countries. This fills a gap in literature where analyses of MENA social policies have been lacking due to limited data.

Using panel data for seventeen countries from 1961 to 2015, we estimate RE Poisson regression models. Our results indicate that growth in national income and the frequency of social reform in MENA countries are related, first positively for low growth rates, then negatively for high growth rates. This finding is completed by the negative effects of oil production and of the population size on the number of social reforms.

Among the avenues of interpretation we examined - investment model, social objectives pursued by the government, and socio-political equilibrium - this is the first one which seems to be better able to fit our results, accompanied by political disturbances.

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1. Introduction

Social protection pertains to mechanisms which aid in the prevention, management, and curbing out of situations that hurt welfare (UNRISD, 2010). It concerns policies that reduce people's exposure to socioeconomic risks like unemployment, sickness, and old age (Midgley, 2013). Common types of social protection include labor market interventions, such as employment services and job training; social insurance schemes, such as health or unemployment insurance; and social assistance programs which provide monetary or in-kind transfers, like food stamps to vulnerable individuals (e.g., the homeless and the physically challenged).

Countries invest in social protection programs to gain benefits from human capital development and income-generating activities (World Bank, 2015). This paper conjectures three causes as to whether or not countries will reform social programs. First, a new social reform may be deemed to be an investment that will generate future productive gains, either through human capital accumulation, increase in available labor force, or other channels. Second, social reforms may be the consequence of explicit or implicit social objectives of the government. For example, a socialist government may aim at providing social protection to the people as a direct consequent of its ideological orientation. Finally, a social reform can emerge from a political equilibrium. For example, destitute social classes may be more in favor of redistribution and social assistance, while well-off citizens may oppose it. If social policy is decided through a vote process, this may lead to new progressive social reforms when the lower classes dominate the electorate. However, if instead wealthy classes dominate, they may also trigger social reforms, for example in order to cut social costs. For example, Hassler et al. (2003) propose a politico-economic model with repeated voting about distortionary income redistribution, in which the constituency of redistributive policies depends on redistribution itself. Such equilibrium may also involve traditional features of society, such as in Dahl et al. (2014) who show how family welfare cultures may be inherited and generate raising long-term participation in social programs.

However, most existing empirical evidence on these issues analyzes trends in social security expenditures in industrialized countries, especially in western Europe (Gordon, 1988). Many studies also investigate the effects of social programs on labor force behavior, productivity and other economic outcomes[2]. In contrast, few are the authors who investigate the determinants of the emergence of social programs. Led by early research by Aaron (1967) and Wilensky (1975), disparities in social protection programs are usually attributed to differences in national income, demography, and government type. Indeed, demography matters for example for the funding of pensions programs since young generations have often to pay for old generations' pensions. Political and cultural dynamics may also play a role. For example, Wilensky (1981) observed in western Europe that the growth in the number of Catholic workers led to the expansion of social security programs. In general, Rudra (2015) discusses how politics plays into the debate about social protection in developing countries. For example, in Scandinavia, an explanation for the generous social security spending in these countries is the participation in government of Social Democratic parties (Gordon, 1988).

However, to date, there is a lack of analysis on social welfare systems in the Middle East and North Africa (MENA) region. This can be attributed to limited availability of indicators on social programs for most countries (see Silva et al, 2012; Jawad 2008 and 2009; UNDP, 2011, for qualitative case studies). Furthermore, unlike most Western countries, some MENA countries have oil-dependent economies. When they exist, these oil resources have been used to finance social programs to an extent which would not have been possible without them. This may imply a certain inclination in favor of social assistance, as a reflection of traditional social concerns in al Koran. Finally, note that many of these countries have experienced little changes in political structures over the period under study, which may explain why typical political economy variables may have little explanatory power in this context.

This note explores potential causes for social policy reforms in the MENA region. More specifically, we focus on an empirical investigation of factors correlated with the incidence of social protection reforms. Because of shortage of data on welfare expenditures (i.e., the kind of data that past social security studies on developed countries utilize), we first construct a new measure of the frequency of changes in social protection programs in these countries. This is performed using country reports from the International Social Security Association (ISSA, 2015),

[2] e.g., Stock and Wise (1990), Welch and Perrachi (1994), Soares (2013).

which provide the dates when a social program has been created or modified. Using these variables, for a panel data of seventeen MENA countries from 1961 to 2015, we estimate RE Poisson regression models of the number of social reforms.

Our main results show that, on the one hand, income growth is positively correlated with the number of reforms for low growth rates, and negatively correlated for higher growth. On the other hand, reliance on oil use and the level of population are found to be negatively associated with the number of social reforms.

The remaining sections of the paper are structured as follows. Section 2 describes the data. Section 3 discusses the econometric findings. Finally, Section 4 concludes.

2. The Data

This study uses panel data from 1961 to 2015 and seventeen MENA countries. The number of MENA countries included in this analysis is constrained by the available country reports from the International Social Security Association (ISSA, 2015). The following countries are considered: Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, and Yemen.

What does determine the occurrence of social policy reforms in the MENA region? To provide preliminary insights to this question, we first construct a new measure of the number of social protection reforms in each country-period, by using qualitative data from the ISSA (2015). Variable 'NR' denotes the result of this count, which is the number of reforms in social security policies for each five-year period between 1961 and 2016. This was possible thanks to ISSA reports for each MENA country that indicate the year when its first social security-related law is ratified, as well as the dates of subsequent reforms, if any. As found in ISSA, five categories of social protection programs are considered: 1) pensions, dependents, and disability benefits, 2) sickness and maternity benefits; 3) work injury and health benefits, 4) unemployment compensation, and 5) family allowances. Descriptive statistics in Table 1 show that, for any five-year period, the number of new social policy reforms range from 0 to 4, with a mean of about one half by country-year, which amounts to six reforms per country on average.

Several socioeconomic explanatory variables are considered as potential determinants of NR. Using data from the World Development Indicators of the World Bank Group (WDI, 2015), 'Growth', 'Energy', and 'Population' are constructed using five-year averages from 1961 to 2015 for each country, which corresponds to eleven periods.

The covariate 'Growth' is defined as Gross Domestic Product (GDP) growth rate of a given country. To account for nonlinearities, we also introduce the square of this variable, $(\text{Growth})^2$. Variable 'Population' is defined as the logarithm of the five-year average of a country's total population. Meanwhile, variable 'Oil' is constructed by taking the logarithm of the five-year average energy use (in kilograms of oil equivalent) per capita. It may be seens as a proxy for consumption-related oil subsidies. Indeed, this variable is included because MENA governments may consider transfers financed from oil revenues as substitutes to social assistance programs. More specifically, if it were not oil-related transfers, social protection programs would account for less than 1% of GDP in the MENA region. This crowding out effect was observed by Silva (2012). In the MENA region, consumption-focused food subsidies and fuel subsidies are popular social policy instruments. Beyond their huge budgetary cost, they have other serious shortcomings: they do not lead to investment in human capital, they distort prices, and finally their targeting performance of the poor is mediocre.

To account for the relative lack of political transitions in MENA countries, two additional explanatory variables are utilized to characterize between-country differences in governance systems. First, variable 'Islamicgovt' is a dummy variable indicating whether the country is governed by an Islamic constitution. Out of the seventeen countries, three countries have constitutions based on Islam: Iran, Saudi Arabia, and Yemen. The relationship of Islamicgovt to the number of reforms seems to be a priori ambiguous. On one hand, a constitution deeply rooted in Islamic traditions may signal rigidity in modifying the legal and constitutional setting. In that case, social security reforms may be less likely to occur. On the other hand, a religion-based government may favor of social protection, as related to traditional Muslim obligations, and thereby make social reforms more likely.

Second, 'Law1961' is a dummy binary variable identifying whether social protection programs were created or modified before 1961 (the start date of the sample). Of the seventeen sampled countries, seven did not have any social security program before 1961: Bahrain, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and Yemen. This controls for the partly unobserved history of social reforms, before the starting date of our data, year 1961. Given the perceived stability in the constitution of most MENA countries, having experienced social reforms before 1961 may imply fewer needs of social reforms after this date. On the other hand, because of fixed organizational costs, changes in social policies can be easier to implement if the country has already an existing program (Gordon, 1988).

Table 1 reports the descriptive statistics of the above-mentioned variables. Per 5-years period, the observed number of new reforms ranges from zero to four, with about one new reform every ten years. A standard deviation about one shows the considerable heterogeneity of these new programs across periods and countries. The mean growth (from 5-year averages) is slightly higher in this sample than 5 percent, with a coefficient of variation over 1, showing substantial growth volatility and heterogeneity. Only 17 percent of the country-years took place under Islamic government. Finally, 59 percent of observations correspond to a country with social programs before 1981.

Table 1 : Descriptive statistics

Variable name	Number observations	Mean	Standard deviation	Min	Max
Nb reforms	187	0.54	1.01	0	4
Growth	147	5.51	5.82	-7.95	43.15
Oil	153	7.31	1.23	4.75	9.95
Population	187	15.59	1.52	11.03	18.27
IslamicGovt	187	0.17	0.38	0	1
Law1961	187	0.58	0.49	0	1

3. Empirical Results

Table 2 shows our estimates of the random-effect panel Poisson regression of the number reforms. In this model, the unobserved heterogeneity of countries is modeled according to a Gamma distribution. The small sample of country-period observations constrains us to include only a few covariates, and invites us to duscuss significance up to the 10 percent level.

Table 2 : Random-effects Poisson panel regression of the number of reforms

Independent variable	(1) Coefficient (s.e.)	(2) Coefficient (s.e.)
Growth	0.0452*	0.1804**
	(0.0264)	(0.0803)
$(\text{Growth})^2$		-0.0088*
		(0.0047)
Oil	-0.2731*	-0.2564*
	(0.1475)	(0.1472)
Population	-0.3459*	-0.3625*
	(0.2099)	(0.2147)
Islamicgovt	0.6329	0.6994
	(0.5247)	(0.5217)
Law1961	0.6099	0.5883
	(0.4742)	(0.4651)
Constant	6.3186*	6.129
	(3.7266)	(3.8556)
Number of observations	131	
Number of groups	17	
Average observation per group	7	
Log-likelihood	-151.58	-149.52

In column (1), economic growth is found to have a linear, slightly positive, effect on the number of reforms. The faster a country's income grows, the more the country may afford new social policies. This is consistent with citizens' expectations and aspirations for reform rising with the prosperity in the economy. However, when a squared growth term is included in the regression, a decreasing return to growth appears, as exhibited by the negative and significant coefficient of $(\text{Growth})^2$. Beyond a growth threshold equal to 1.025 percent per year, the positive effect of growth vanishes and instead becomes negative. It may be that when a country's income growth rate is high enough, the social needs of the population can be better fulfilled by income hikes than by costly new social programs. This is consistent with findings that the rate of return of capital typically exceeds the relatively low rate of return on the social security taxes paid by working generations (Felstein and Liebman, 2001). Following on our three conjectures stated in the Introduction, the non-linear impact of Growth does not fit clearly with interpreting social reforms seen as social objectives or arising from a political equilibrium. It can be argued that it may better reflect social programs seen as investment exhibiting decreasing returns to scale.

Meanwhile, the coefficient of variable Population is significantly and negatively correlated with the number of social reforms. This is consistent with making changes in social programs with a larger population corresponding to higher investment costs. One may also argue that policy reforms may be harder to implement with large populations due to coordination problems.

The Oil variable, too, has a significant negative effect on the frequency of social security reforms. This is in line with the Rentier state model (Ross, 2004) stating that the more reliant is the economy to oil, the less likely is the government to spend on long-term welfare programs. Another related explanation is found in the recent literature on the resource curse (Van der Ploeg, 2011). It hypothesizes that countries dependent on natural resources, like petroleum and minerals, are characterized by inefficient institutions (Mehlum et al, 2006; Torvik, 2009) and hence have short-sighted policies which tend to under-provide public goods (Van der Ploeg and Poelhekke, 2010). Under our interpretation grid, the impact of the Oil variable may be regarded as an outcome of a subjacent political equilibrium.

Finally, as for other variables controlling for the political environment and not included, Islamicgovt and Law1961 are both found not to significantly affect the number of reforms. This rules out exaggerating the roles of historical trends and religious orientation in determining social policies in MENA countries.

4. Conclusion

By constructing a novel measure on the frequency of changes in social protection policies, this empirical paper provides preliminary, yet new evidence on the determinants of social security reforms in Middle East and North Africa (MENA) countries. This fills a gap in literature where analysis of MENA social policies has been lacking because of limited data on social expenditures in these countries. Unlike most literature focusing on industrialized Western countries, what makes the MENA region different, beyond lower development level, is first that many of these countries are reliant on oil wealth, and second, that they enjoy relatively stable political systems, until recently with the occurrence of the Arab Spring. Using panel data for seventeen countries from 1961 to 2015, we estimate RE Poisson regression models. Our results indicate that growth in national income and the number of social reforms in MENA countries are related, first positively for low growth rates, then negatively for high growth rates. This finding is completed by negative effects of oil production and of the population size on the number of social reforms.

Among the avenues of interpretation we examined - investment model, social objectives pursued by the government, and socio-political equilibrium - this is the first one which seems to be better able to fit these results. Indeed, investment may imply both decreasing returns to scale and rising population costs for the development of social programs. However, the complexity of the social and political processes in MENA social policies may be consistent with the negative correlation with oil proudction. For example, MENA governments, which are dominated by elites more concerned by their staying in power and rent seeking than long-term human capital investment and human capital protection strategies, may directly buy the support of populations through direct transfers or subsidies when they can finance them from oil resources.

Finally, there are several directions in which this paper could be extended. First, more detailed data on social programs should be constructed. Second, one may want to move from the analysis of the incidence of policies towards the analysis of outcomes. That is: do the nonlinear effects of oil production specialization or income growth remain when examining the impact of social programs on some of their outcomes, like women employment, coverage of health insurance, and retirement rates? Third, the scope of studied countries could be expanded. Doing so would provide more comprehensive investigation on the disparities between the frequencies of social policy reform in MENA and non-MENA countries, although larger unobserved heterogeneities of countries may raise new challenges.

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